Harrier Fleet Replacement Squadron Training Deferrals and their Impact on the Harrier Fleet

Captain MR Cassidy

Maj B Lewis, CG4
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Recent deployment cycles have stretched the ability of Harrier squadrons to train pilots to meet deployment requirements. An aging high maintenance fleet and low pilot retention add to the difficulty of ensuring training goals can be reached. To fill the requirement for new pilots in the fleet, the Harrier Fleet Replacement Squadron (FRS) has deferred flights and shortened the training cycle for new Harrier pilots, but in doing so has increased the training requirement for these new pilots once they reach the fleet. The Harrier FRS must complete aviation training requirements and stop deferring flights to reduce the burden on operation squadrons.

Current Operational Tempo

Current deployment cycles have many Harrier squadrons on six to eight month deployments followed by six months to one year of dwell time to reconstitute the squadron and train pilots. These short dwell times put a heavy burden on squadrons to fulfill the training requirements for new pilots rapidly and to maintain the level of proficiency for current pilots.

When these squadrons return they regularly transfer their aircraft to squadrons that are preparing to deploy and receive a lesser number of aircraft that are usually in

need of in-depth maintenance. This necessary shortfall in aircraft taxes the squadron's capability to generate much needed sorties to train pilots. The combination of inadequate time and a lack of resources compounds the problem created by deferred sorties and unfulfilled ground training.

Deferrals and Flight Training Requirements

Marine Corps aviation communities control their aviation training requirements through the use of a Training and Readiness Manual (T&R Manual). These manuals spell out the sortie and flight hours to complete flights and simulators, as well as dictate which flights must be completed to gain initial proficiency and maintain acquired proficiency.[1] In June 2006 a message from TECOM authorized the FRS to defer a number of flights and sorties outlined in the T&R Manual to remove the pilot training requirement (PTR) deficit and increase the output of pilots into the fleet.[2] This change in training offers a temporary solution to a manpower issue, at the cost of long term adverse effects on pilot readiness.

Current T&R requirements break sorties into five phases of instruction. Requirements in the 100-level are core skill introductions that are taught by the FRS.[3]

Fundamental skills, in the 200-level, are taught in the fleet to train wingmen in basic skills required to employ the Harrier.[4] The 300-level requirements, or mission skills, are advanced skills that teach proficiency in required areas.[5] Flights and training in the 400-level teach skills for missions that require specialized tasking, and the 500-level phase teaches skills required for instructing.[6] In order for a pilot to be proficient in a skill, he must complete all of the 200 and 300 phase requirements.

The 100-level phase includes 66 sorties, totaling 74.2 hours of flight time, and 50 simulators.[7] These sorties and simulators teach basic skills in flying the airplane and employing tactics, which are the building block for follow on training in the fleet. The current deferral message authorizes the FRS to defer nine sorties, totaling 10.8 hours, and six simulators.[8] These deferred flights total seven percent of the FRS flight requirement to produce a pilot and eight percent of the simulator requirement.

To employ the skills required of an attack pilot the 200 and 300-level phases must be completed.[9] To finish these phases, an aviator must fly 47 sorties totaling 56.4 hours and 31 simulators. Hence, the deferral increases the

sortie and the simulator requirement on fleet squadrons by 19 percent.

On average, sorties take 1.2 hours, the brief approximately 2 hours and the post-flight and debrief another 2 hours, which equates to roughly 5.2 hours of the pilot's day.[10] Each one-hour simulator requires an hour brief and an hour debrief totaling three hours. Combined, these deferred flights add 64.8 hours of training to a new pilot's workload.

Ground Training Requirements

Not only must a pilot meet the aviation training requirements, but he must also fulfill Marine Corps and aviation-related ground training requirements. Certain annual requirements cannot be avoided and must be completed in the fleet. One-time training or training with a long time between re-qualifications should be conducted in the FRS, but it usually falls on fleet squadrons to complete.

For example, recent changes in Marine Corps policy require all combat arms to become gray belts in MCMAP. New pilots regularly show up to the fleet with their tan belts and require additional training, which requires 35 hours of instruction and practice.[11]

In a similar manner, Survival, Evasion, Resistance, Escape (SERE) School is required for all aircrew and is often not completed by the training command or FRS. This school takes two full weeks of offsite training to complete. Given a 50 hour work week this takes another 100 hours of a new pilots training time away from the squadron.

Likewise, the Centrifuge-based Flight Environment Training (CFET) is mandated by the Department of the Navy for all aircrew in tactical jet aircraft.[12] This requirement takes an additional two days, or 20 hours of work, for a pilot to complete if deferred to the fleet.

In addition, swim and flight physiology training must be completed every four years.[13] While this training usually is not up for immediate renewal in the FRS, pilots reach the point at which they must renew this training prior to deployment. The training typically removes the pilot from the squadron for an additional two days.

Impact of Deferrals

The deferred flights and ground training requirements place a burden on squadron flights by an additional nine sorties and increase the training time requirement on the new pilot by 240 hours. To complete the training requirement to deploy it takes 337 hours of simulators and

flights. Hence, fleet deferrals have increased the time required to prepare for a deployment by 71 percent.

Argument for Deferrals

The reason for these deferrals is to accelerate the movement of pilots into the fleet to fill the spots needed in the squadrons.[14] Current PTR is below the accepted level for manning, and the fleet needs pilots to accomplish the mission. Low PTR, coupled with a lower than desired retention of fleet pilots, has created a hole in manpower that needed to be filled.

Deferral Impact on Safety and Proficiency

The current solution to this problem has created other issues. While proper manning is important, safety in a traditionally dangerous aircraft to fly and pilot proficiency in a wartime environment should come first.[15]

With fewer aircraft in squadrons, post deployment, the number of flight hours required for trained pilots to maintain their proficiency and progress in the field becomes difficult to achieve. For example, the squadron must fly each pilot an average minimum of 8.3 hours a month to meet the annual 100 hour flight time requirement.[16] If a squadron was at table of organization strength for pilots,

it would require each squadron to fly a minimum of 200 hours a month with the required aircraft to make that minimum goal.

Flying eight hours a month generally is not sufficient training to do more than maintain current proficiency. In most cases skills will actually degrade. Now, with a larger training requirement placed on new pilots in the fleet, a greater amount of the squadron's hours must be allocated to new pilots, which leads to less proficient experienced pilots and less opportunity to train instructors and to provide the higher level qualifications the squadron requires to operate.

Fewer flight hours produce a safety issue as well. Since fiscal year 2000, every pilot in a non-combat mishap with an aircrew causal factor had less than 15 hours of flight time a month, with almost half of those having less than 10 hours.[17] If the preponderance of flight time must be spent to get new pilots trained quickly for deployment the increased risk is passed on to other aviators.

Alternative Solutions

The Harrier community has two possible solutions for this problem, if current deployment cycles do not change. The first is increasing the number of aircraft allocated to

each squadron for training pilots, since this would equates to more available flight time. More aircraft are required to overcome the 19 percent increase in flight training requirements without a net loss to squadrons. However, this solution poses a problem because the AV-8B is no longer in production, and the fleet has a finite number of airframes available.

The second, more viable option, is for the FRS to assume the burden of adequately completing the T&R requirements and ground training requirements. Doing so would decrease the time required to prepare a new fleet pilot for deployment and increase the overall hours available to the other pilots in the squadron. This second option lends itself to a healthier fleet and helps mitigate the risk associated with lower flight time availability.

However, if the FRS increases the training requirement, it will increase the time to train pilots for the fleet, which will create other problems with regard to PTR. Therefore, in order to keep fleet manning at a reasonable level, considerations should be given to keeping pilots in the fleet longer than the typical three year tour. Additionally, consideration should be given to finding solutions, other than monetary compensation, to retain pilots in the Harrier community.

Conclusion

The Marine Corps requires adequately trained AV-8B pilots to staff deployed units. Currently, the fleet has too great a burden to safely train new pilots and to maintain pilot proficiency. With short times between deployments and smaller numbers of aircraft to train with, the FRS must stop deferring flights and ground training requirements to the already heavily burdened fleet squadrons. Short term solutions to manpower issues have only created greater problems for squadrons. If deferrals continue, the end-state is a under trained, overworked, and unsafe AV-8B community.

Notes

1. Department of the Navy, *NAVMC Directive 3500.99: AV-8B Training and Readiness Manual*, 2006 (Washington, D.C.: GPO, 2006), 1.
2. Commanding General TECOM, “AV-8B Event Deferral Approval,” 07 June 2006, DMS Message (07 June 2006).
3. Department of the Navy, *NAVMC Directive 3500.99*, 15.
4. Department of the Navy, *NAVMC Directive 3500.99*, 83.
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7. Department of the Navy, *NAVMC Directive 3500.99*, 25.

8. Commanding General TECOM, “AV-8B T&R Sortie Deferral Request,” 06 June 2006, DMS Message (06 June 2006).
9. Department of the Navy, *NAVMC Directive 3500.99*, 6.
10. Department of the Navy, *NAVMC Directive 3500.99*, 4.
11. United States Marine Corps, *Marine Corps Martial Arts Program Training Log* Book, 11.
12. Department of the Navy, *OPNAVINST 3710.7T: NATOPS GENERAL FLIGHT AND OPERATING INSTRUCTIONS*, 2004 (Washington, D.C.: GPO, 2004), E-2.
13. Department of the Navy, *OPNAVINST 3710.7T*, 8-11.
14. Commanding General TECOM, “AV-8B T&R Sortie Deferral Request.”
15. United States of America, *Hearing Before the Military Subcommittee of the Committee on National Security House of Representatives*: *Accident Investigations of Recent F-14 and AV-8B Mishaps,* 1997 (Washington, D.C., U.S. Government Printing Press, 1997), 22.
16. Department of the Navy, *OPNAVINST 3710.7T*, 11-3.
17. Naval Safety Center, *AV-8B Class A Flight Mishaps: Graphical Depictions, FY00-08*, 2008 (Norfolk, Va, 2008), slide 11.

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